

ABSTRACT

A turbine system including a turbine and a reservoir for working fluid and a turbine. the reservoir is closed so that the working fluid is heatable up to the critical temperature of the working fluid. An exit pump pumps superheated working fluid from the reservoir onto the impellers in the turbine. An entry pump pumps working fluid from the turbine back to the reservoir. The reservoir is closed (gas tight) permitting heating the working fluid in the reservoir up to the critical temperature and critical pressure of the working fluid. The exit and entry pumps are coupled together and arranged such that the rate at which fluid enters the reservoir equals the rate that the working fluid leaves the reservoir. By raising the working fluid to in the reservoir in the liquid state, loss of energy of vaporization is substantially avoided. By maintaining equal rates of charge and discharge of fluid into and out of the reservoir, loss of energy due to compression is avoided.

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